

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this application:

LISTING OF CLAIMS:

Claims 1 to 26. (Canceled).

27. (Currently Amended) A superimposed steering system for a vehicle, comprising:

a variable ratio gear unit including a first gear unit input shaft and a second gear unit input shaft and configured as a harmonic drive for superimposition of rotational angles which occur at the two gear unit input shafts onto a gear unit output shaft of the variable ratio gear unit, the gear unit output shaft adapted to act on an input shaft of a steering gear, the first gear unit input shaft operatively connected to a steering handle by a steering shaft and the second gear unit input shaft operatively connected to a servomotor, the first gear unit input shaft connected releasably to a radially flexible flex spline of the harmonic drive and penetrating an eccentric drive core of the harmonic drive, the eccentric drive core protruding into the radially flexible flex spline, ~~torque of the servomotor support[[ed]]~~ a torque on one of (a) another component, fixed to the vehicle, of the superimposed steering system and (b) the vehicle other than on a steering column.

wherein the gear unit output shaft rotates relative to the first gear unit input shaft.

28. (Previously Presented) The superimposed steering system according to claim 27, wherein the superimposed steering system is arranged as one of (a) a power steering system and (b) a power-assisted steering system for a motor vehicle.

29. (Currently Amended) A [[The]] superimposed steering system ~~according to claim 27, for a vehicle, comprising:~~

a variable ratio gear unit including a first gear unit input shaft and a second gear unit input shaft and configured as a harmonic drive for superimposition of rotational angles which occur at the two gear unit input shafts onto a gear unit output shaft of the variable ratio gear unit, the gear unit output shaft adapted to act on an

input shaft of a steering gear, the first gear unit input shaft operatively connected to a steering handle by a steering shaft and the second gear unit input shaft operatively connected to a servomotor, the first gear unit input shaft connected releasably to a radially flexible flex spline of the harmonic drive and penetrating an eccentric drive core of the harmonic drive, the eccentric drive core protruding into the radially flexible flex spline, the servomotor supports a torque on one of (a) another component, fixed to the vehicle, of the superimposed steering system and (b) the vehicle other than on a steering column,

wherein the servomotor is adapted to provide a torque and rotational angle to the eccentric drive core on the second gear unit input shaft of the harmonic drive, the radially flexible flex spline connected to the first gear unit input shaft in a form-fitting and releasable manner, at least one circumferential section of an outer circumferential surface of the radially flexible flex spline in engagement in a continuously changeable manner with a substantially cylindrical supporting surface of a circular spline is connected rotationally fixedly to the gear unit output shaft.

30. (Currently Amended) A [[The]] superimposed steering system according to claim 27, for a vehicle, comprising:

a variable ratio gear unit including a first gear unit input shaft and a second gear unit input shaft and configured as a harmonic drive for superimposition of rotational angles which occur at the two gear unit input shafts onto a gear unit output shaft of the variable ratio gear unit, the gear unit output shaft adapted to act on an input shaft of a steering gear, the first gear unit input shaft operatively connected to a steering handle by a steering shaft and the second gear unit input shaft operatively connected to a servomotor, the first gear unit input shaft connected releasably to a radially flexible flex spline of the harmonic drive and penetrating an eccentric drive core of the harmonic drive, the eccentric drive core protruding into the radially flexible flex spline, the servomotor supports a torque on one of (a) another component, fixed to the vehicle, of the superimposed steering system and (b) the vehicle other than on a steering column,

wherein the radially flexible flex spline is fixed on the first gear unit input shaft by a connection element and a clutch plate.

31. (Previously Presented) The superimposed steering system according to claim 27, wherein the eccentric drive core is mounted on the first gear unit input shaft by roller bearings at its axial ends.

32. (Previously Presented) The superimposed steering system according to claim 31, wherein one of (a) an outer ring and (b) an inner ring of a roller bearing is prestressed axially.

33. (Currently Amended) ~~A [[The]]~~ superimposed steering system according to ~~claim 32, for a vehicle, comprising:~~

a variable ratio gear unit including a first gear unit input shaft and a second gear unit input shaft and configured as a harmonic drive for superimposition of rotational angles which occur at the two gear unit input shafts onto a gear unit output shaft of the variable ratio gear unit, the gear unit output shaft adapted to act on an input shaft of a steering gear, the first gear unit input shaft operatively connected to a steering handle by a steering shaft and the second gear unit input shaft operatively connected to a servomotor, the first gear unit input shaft connected releasably to a radially flexible flexspline of the harmonic drive and penetrating an eccentric drive core of the harmonic drive, the eccentric drive core protruding into the radially flexible flexspline, the servomotor supports a torque on one of (a) another component, fixed to the vehicle, of the superimposed steering system and (b) the vehicle other than on a steering column,

wherein the eccentric drive core is mounted on the first gear unit input shaft by roller bearings at its axial ends,

wherein one of (a) an outer ring and (b) an inner ring of a roller bearing is prestressed axially, and

wherein the one of (a) the outer ring and (b) the inner ring of the roller bearing is prestressed axially with a disk spring.

34. (Previously Presented) The superimposed steering system according to claim 33, wherein the disk spring is supported on the clutch plate by the radially flexible flexspline.

35. (Previously Presented) The superimposed steering system according to claim 29, wherein the first gear unit input shaft is mounted in the circular spline by a bearing.

36. (Previously Presented) The superimposed steering system according to claim 35, wherein the bearing is arranged as a needle bush.

37. (Previously Presented) The superimposed steering system according to claim 35, wherein the first gear unit input shaft is mounted in the bearing with a form-fittingly releasable bearing journal.

38. (Previously Presented) The superimposed steering system according to claim 37, wherein a depression having a cross-section that deviates from a circular shape is arranged in the bearing journal.

39. (Previously Presented) The superimposed steering system according to claim 27, wherein the servomotor is operatively connected to the second gear unit input shaft by a gear unit.

40. (Previously Presented) The superimposed steering system according to claim 39, wherein the gear unit is arranged as a gear mechanism.

41. (Previously Presented) The superimposed steering system according to claim 39, wherein the gear unit includes at least one of (a) a spur gear mechanism, (b) a helical gear mechanism and (c) a bevel gear mechanism.

42. (Previously Presented) The superimposed steering system according to claim 40, wherein the eccentric drive core is of one-piece configuration with the second gear unit input shaft and a gear wheel of the gear unit.

43. (Previously Presented) The superimposed steering system according to claim 39, wherein the gear unit is arranged as a flexible drive mechanism.

44. (Previously Presented) The superimposed steering system according to claim 43, wherein the eccentric drive core and the second gear unit input shaft are of one-piece configuration with a pulley wheel of the gear unit.

45. (Withdrawn - Currently Amended) The superimposed steering system according to claim [[27]] 29, wherein the eccentric drive core is formed in one piece with a servomotor shaft which forms the second gear unit input shaft.

46. (Withdrawn) The superimposed steering system according to claim 45, wherein the servomotor is arranged as a hollow shaft motor, a rotor of the servomotor arranged rotatably about the steering shaft.

47. (Previously Presented) The superimposed steering system according to claim 27, wherein at least one of (a) a current supply and (b) a signal forwarded to the servomotor occurs without a transfer device.

48. (Previously Presented) The superimposed steering system according to claim 27, wherein at least one of (a) a current supply and (b) a signal forwarded to the servomotor occurs without sliders and without flat spiral springs.

49. (Previously Presented) The superimposed steering system according to claim 27, wherein the harmonic drive is formed substantially from steel.

50. (Previously Presented) The superimposed steering system according to claim 27, wherein the harmonic drive is formed substantially from plastic.

51. (Previously Presented) The superimposed steering system according to claim 29, wherein the flexspline has an external toothed system in engagement with an internal toothed system of the circular spline.

52. (Withdrawn - Currently Amended) The superimposed steering system according to claim [[27]] 29, wherein the variable ratio gear unit is arranged one of (a) between a steering valve and the steering gear and (b) between the steering handle and the steering valve for a hydraulic power assistance steering system.

53. (Previously Presented) The superimposed steering system according to claim 27, wherein the variable ratio gear unit is arranged one of (a) between a steering moment sensor and the steering gear and (b) between the steering handle and the steering gear for an electric power assistance steering system.

54. (Withdrawn) The superimposed steering system according to claim 29, wherein the harmonic drive is arranged between the steering handle and the steering gear so that the circular spline is connected rotationally fixedly to the steering handle and the radially flexible flexspline is connected rotationally fixedly to the gear unit output shaft.